



Contribution ID: 120

Type: Oral

Review of the results of the ANTARES neutrino telescope

Thursday, 6 September 2018 11:30 (30 minutes)

Neutrino astronomy is in an exciting moment. The discovery of a cosmic flux of high energy neutrinos by IceCube heralds a new era in which neutrinos have finally joined the multi-messenger study of the Universe. This new important window complements more “traditional” probes (as cosmic rays or photons), given the particular combination of characteristics of neutrinos (neutral, stable and weakly interacting).

The ANTARES detector, built in the Mediterranean Sea, has succeeded in two key points. First, it has shown the feasibility of the technique of underwater neutrino telescopes, which offers important advantages in terms of performance (better angular resolution, better visibility of the Galaxy if built in the Northern Hemisphere). This has paved the way for the next step, KM3NeT, already in construction. Second, the physics harvest of ANTARES is very rich, including many results that show the particular advantages of being in the Mediterranean mentioned above. The analyses performed include the search for point sources, diffuse fluxes, transient phenomena, dark matter, etc. In this talk we will review this long list of achievements.

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Session Classification: Search for HE astrophysical neutrinos